IN THE CLAIMS

1-16. (Canceled)

17. (**Currently amended**) A kit for the synthesis of a polynucleotide, said kit comprising:

(a) a first DNA polymerase, wherein said first polymerase possesses 3'-5' exonuclease activity selected from the group consisting of Archaebacterial DNA polymerases, and

(b) a second DNA polymerase, wherein said second polymerase lacks 3'-5' exonuclease activity selected from the group consisting of thermostable DNA polymerases lacking 3'-5' exonuclease activity; wherein the ratio of DNA polymerase activity of the first DNA polymerase to the DNA polymerase activity of the second DNA polymerase is ~~greater than one to one.~~ from about 100:1 up to about 600:1.

18. (Previously presented) A kit according to claim 17, wherein said *Thermus aquaticus* DNA polymerase is selected from the group consisting of wild-type *Thermus aquaticus* DNA polymerase and N-terminal deleted forms of the same enzyme.

19. (**Currently amended**) A method of amplifying a polynucleotide sequence, said method comprising: the steps of mixing a composition with a synthesis primer, and a synthesis template, said composition comprising

(a) a first DNA polymerase, wherein said first polymerase possesses 3'-5' exonuclease activity selected from the group consisting of *Archaebacterial* DNA polymerases, and
(b) a second DNA polymerase, wherein said second polymerase lacks 3'-5' exonuclease activity selected from the group consisting of thermostable DNA polymerases lacking 3'-5' exonuclease activity; wherein the ratio of DNA polymerase activity of the first DNA polymerase

to the DNA polymerase activity of the second DNA polymerase is ~~greater than one to one.~~ from about 100:1 up to about 600:1.

20. (Previously presented) A method according to claim 19, wherein said first DNA polymerase comprises *Pyrococcus furiosus* DNA polymerase.

21. (Previously presented) A method of claim 19, wherein said second DNA polymerase comprises a *Thermus aquaticus* DNA polymerase selected from the group consisting of wild-type *Thermus aquaticus* DNA polymerase and N-terminal deleted forms of the same enzyme.

22. (Previously presented) A method according to claim 19, wherein said second DNA polymerase comprises *Thermus aquaticus* DNA polymerase.

23. (Previously presented) A method according to claim 21, wherein said *Thermus aquaticus* DNA polymerase comprises Klentaq-278 DNA polymerase.

24. (Previously presented) A method according to claim 20, wherein said second DNA polymerase comprises *Thermus aquaticus* DNA polymerase.

25. (Previously presented) A method according to claim 20, wherein said second DNA polymerase comprises Klentaq-278 DNA polymerase.

26. (Previously presented) A method according to claim 19, wherein said first DNA polymerase comprises Vent DNA polymerase.

27. (Previously presented) A method according to claim 26, wherein said second DNA polymerase comprises *Thermus aquaticus* DNA polymerase.

28. (Previously presented) A method according to claim 26, wherein said second DNA polymerase comprises Klentaq-278 DNA polymerase.

29. (Previously presented) A kit according to claim 17, wherein said first DNA polymerase comprises *Pyrococcus furiosus* DNA polymerase.

30. (Previously presented) A kit according to claim 17, wherein said second DNA polymerase comprises *Thermus aquaticus* DNA polymerase.

31. (Previously presented) A kit according to claim 18, wherein said *Thermus aquaticus* DNA polymerase comprises Klentaq-278 DNA polymerase.

32-36. (Canceled)